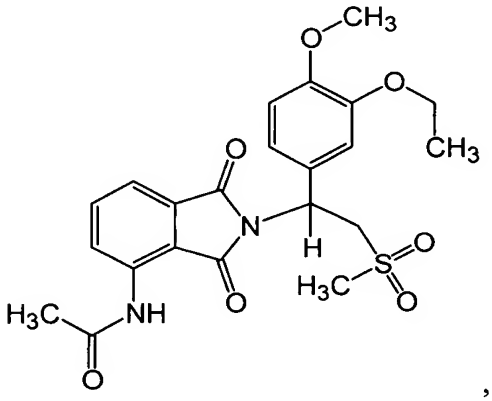
Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for modulating the ~~proliferation or~~ differentiation of a mammalian hematopoietic stem cell or hematopoietic progenitor cell into a blood cell, comprising contacting said cell with a compound having the formula:



,

or is a salt, hydrate, solvate, clathrate, enantiomer, diastereomer, racemate, or mixture of stereoisomers thereof, for a sufficient time such that said proliferation or differentiation of the stem cell or progenitor cell into a blood cell is modulated.

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Withdrawn) The method of claim 1, wherein said contacting is conducted in cell culture.

6. (Previously presented) The method of claim 1, wherein said contacting is conducted *in vivo*.

7. (Original) The method of claim 1 wherein said compound is present at a concentration of from about 0.005 μg/ml to about 5 mg/ml.

8. (Previously presented) The method of claim 1 wherein the cell is a human stem cell.

9. (Previously presented) The method of claim 1 wherein said cell is a $CD34^+$ or $CD133^+$ cell.

10. (Canceled)

11. (Canceled)

12. (Withdrawn) The method of claim 9, wherein said contacting is conducted in cell culture.

13. (Previously presented) The method of claim 9, wherein said contacting is conducted *in vivo*.

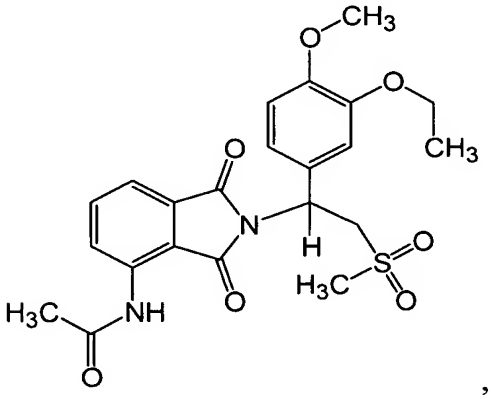
14. (Previously presented) The method of claim 13, wherein said cell is a cell that has been administered to a mammalian subject.

15. (Canceled)

16. (Currently amended) The method of claim 1, wherein said cell is a $CD34^+$ or $CD133^+$ cell that has been cryopreserved and thawed prior to said ~~proliferation or~~ differentiation.

17-24. (Canceled)

25. (Currently amended) A pharmaceutical composition comprising a mammalian cell and a pharmaceutically-acceptable carrier, wherein said cell is a hematopoietic stem cell or progenitor cell that has been contacted with a compound that inhibits PDE IV activity for a time sufficient to cause modulation of differentiation ~~or proliferation~~ of said stem cell or progenitor cell, and wherein said compound has the formula:



or is a salt, hydrate, solvate, clathrate, enantiomer, diastereomer, racemate, or mixture of stereoisomers thereof.

26. (Previously presented) The pharmaceutical composition of claim 25 wherein the hematopoietic stem cell or progenitor cell is selected from the group consisting of a cord blood stem cell, a peripheral blood stem cell, and a bone marrow stem cell.

27. (Canceled)

28. (Withdrawn) The pharmaceutical composition of claim 25 wherein said hematopoietic stem cell or progenitor cell is contacted with said compound in cell culture.

29. (Previously presented) The pharmaceutical composition of claim 25 wherein said compound is present at a concentration of from about 0.005 mg/ml to about 5 mg/ml when contacted with said cell.

30. (Previously presented) The pharmaceutical composition of claim 25 wherein the hematopoietic stem cell or progenitor cell is a human stem cell.

31. (Canceled)

32. (Previously presented) The pharmaceutical composition of claim 25 wherein said hematopoietic stem cell or progenitor cell is $CD34^+$ or $CD133^+$.

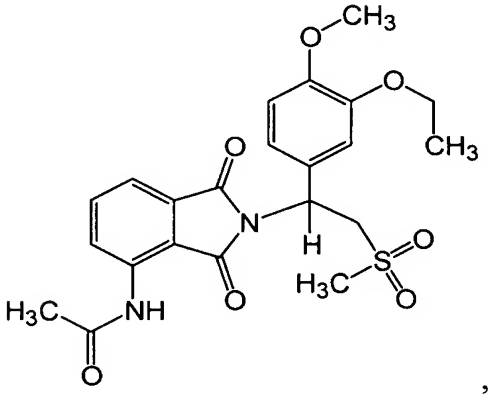
33. (Previously presented) The pharmaceutical composition of 25 wherein the hematopoietic stem cell or progenitor cell is a $CD11b^+$ cell.

34-45. (Canceled)

46. (Withdrawn) A method of administering a treated mammalian cell to an individual comprising:

(a) contacting a hematopoietic stem cell or progenitor cell with a PDE IV-inhibitory compound to produce a treated mammalian cell, wherein said contacting is sufficient to modulate the differentiation of said stem cell or progenitor cell; and

(b) administering said treated mammalian cell to an individual, wherein said compound has the formula:



or is a salt, hydrate, solvate, clathrate, enantiomer, diastereomer, racemate, or mixture of stereoisomers thereof.

47. (Withdrawn) The method of claim 46, wherein step (b) comprises administering said treated cell in combination with untreated cells.

48. (Withdrawn) The method of claim 47 wherein the untreated cell is an embryonic stem cell, a placental cell, a cord blood cell, a peripheral blood cell, or a bone marrow cell.

49. (Withdrawn) The method of claim 46, wherein said cell has been cryopreserved and thawed prior to said administering.

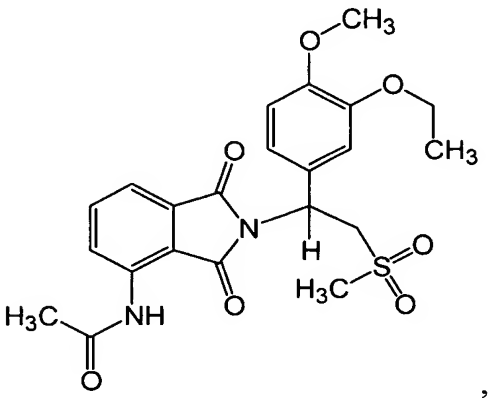
50.-101. (Canceled)

102. (Previously presented) The method of claim 1, wherein said cell is a $CD11b^+$ cell.

103. (New) The method of claim 9, wherein said stem or progenitor cell is $CD34^+$.

104. (New) The method of claim 9, wherein said stem cell or progenitor cell differentiates into a $CD34^+CD38^-CD33^+$ cell.

105. (New) A method for modulating the proliferation of a mammalian hematopoietic stem cell or hematopoietic progenitor cell, comprising contacting said cell with a compound having the formula:



or is a salt, hydrate, solvate, clathrate, enantiomer, diastereomer, racemate, or mixture of stereoisomers thereof, for a sufficient time such that said proliferation of the stem cell or progenitor cell is modulated.

106. (New) The method of claim 105 wherein said contacting is conducted *in vivo*.

107. (New) The method of claim 105 wherein said compound is present at a concentration of from about 0.005 μg/ml to about 5 mg/ml.

108. (New) The method of claim 105 wherein the cell is a human stem cell.

109. (New) The method of claim 105 wherein said cell is a $CD34^+$ or $CD133^+$ cell.

110. (New) The method of claim 109, wherein said stem or progenitor cell is $CD34^+$.

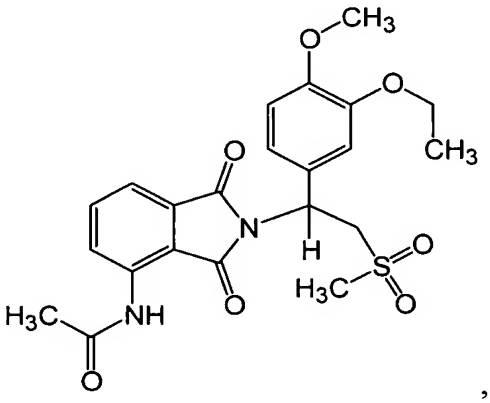
111. (New) The method of claim 109, wherein said stem cell or progenitor cell differentiates into a $CD34^+CD38^-CD33^+$ or $CD34^+CD38^-CD33^-$ cell.

112. (New) The method of claim 109, wherein said contacting is conducted *in vivo*.

113. (New) The method of claim 105, wherein said cell is a cell that has been administered to a mammalian subject.

114. (New) The method of claim 105, wherein said cell is a $CD34^+$ or $CD133^+$ cell that has been cryopreserved and thawed prior to said proliferation.

115. (New) A pharmaceutical composition comprising a mammalian cell and a pharmaceutically-acceptable carrier, wherein said cell is a hematopoietic stem cell or progenitor cell that has been contacted with a compound that inhibits PDE IV activity for a time sufficient to cause modulation of proliferation of said stem cell or progenitor cell, and wherein said compound has the formula:



or is a salt, hydrate, solvate, clathrate, enantiomer, diastereomer, racemate, or mixture of stereoisomers thereof.

116. (New) The pharmaceutical composition of claim 115 wherein said hematopoietic stem cell or progenitor cell is contacted with said compound in cell culture.

117. (New) The pharmaceutical composition of claim 115 wherein said compound is present at a concentration of from about 0.005 mg/ml to about 5 mg/ml when contacted with said cell.

118. (New) The pharmaceutical composition of claim 115 wherein the hematopoietic stem cell or progenitor cell is a human stem cell.

119. (New) The pharmaceutical composition of claim 115 wherein said hematopoietic stem cell or progenitor cell is $CD34^+$ or $CD133^+$.

120. (New) The pharmaceutical composition of claim 115 wherein the hematopoietic stem cell or progenitor cell is a $CD11b^+$ cell.